

SECTION 1447

PRESSURE GAUGES

1447.0100 GENERAL

1447.0101 Description of Work. The work under this Section shall consist of furnishing all labor, materials, equipment, and incidental fittings required for the installation of pressure gauges, all in accordance with the details shown on the plans and the requirements of these specifications.

1447.0102 Related Specifications.

- Section 0105 – Control of Material (City of Tucson General Provisions, Appendix C)

1447.0103 Submittals. In order to be accepted for incorporation into the work, the manufacturer's make and model of pressure gauge shall appear on the list of Agency-approved products found in Appendix A of these standard specifications. A Certificate of Compliance conforming to the requirements of Subsection 0105.0400(B) shall be submitted to the Engineer.

Shop drawings shall be submitted for all pressure gauges and approved by the Engineer before installation.

All submittals shall reference the Tucson Water project plan number.

1447.0104 Delivery, Storage, and Handling. Pressure gauges shall be delivered to the site, stored, and handled in accordance with the manufacturer's instructions except as may be modified by the plans, special specifications, or as directed by the Engineer.

1447.0200 PRODUCTS

1447.0201 Materials.

(A) General. Pressure gauges furnished shall be suitable for their intended use. Unless otherwise shown on the plans or indicated in the special specifications, pressure gauges shall conform to the following requirements:

- (1) Case.** The case shall be cast aluminum, black finish, and water tight.
- (2) Ring.** The ring shall be reinforced polypropylene, black finish, and threaded.
- (3) Dial Size.** The dial size shall be 3-1/2 inches, nominal.
- (4) Pressure Range.** The pressure range of the gauge shall be 0 to 200 pounds per square inch, in 1-psi gradations.

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(5) **Connection.** The connection shall be 1/4 inch NPT. The connection shall be brass. A properly rated hydraulic base with hardware for a hose bib connection shall be provided with the gauge.

(6) **Accuracy.** The accuracy of the pressure gauge shall be 1/2 percent mid scale and 1 percent full scale.

(7) **Pointer Travel.** The travel of the gauge pointer shall be greater than 200 degrees and less than 270 degrees.

(8) **Pressure Sending Element.** A Bourdon tube manufactured of either phosphor bronze or type 316 stainless steel shall be provided.

(9) **Movement.** The pressure gauge shall be provided with a stainless steel or brass movement.

(10) **Temperature Range.** The operating temperature range of the pressure gauge shall range from 20 to 150 degrees F.

(11) **Gauge Fill.** The gauge shall be filled with glycerin.

(B) **Chlorine Solution Lines.** Pressure gauges on chlorine solution lines shall be isolated by Teflon diaphragm gauge protectors with PVC bodies.

1447.0300 EXECUTION

1447.0301 **General.** Pressure gauges shall be installed as indicated on the plans or as specified in the special specifications.

1447.0302 Installation.

(A) **General.** Pressure gauges shall be installed in accordance with the manufacturer's recommendations except as modified herein.

Pressure gauges shall not be installed until after the pipeline has been tested and accepted.

(B) **Workmanship.** The Contractor shall provide personnel skilled and knowledgeable regarding installation procedures for the pressure gauges and appurtenances being installed.